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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* CHRISTOPHER A. ADKINS,  
DOUGLAS L. ROBERTSON, DAVID C. STEVENSON,  
and BARRY B. STOUT

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Appeal 2007-1876  
Application 10/625,383  
Technology Center 3600

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Decided: June 26, 2008

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Before WILLIAM F. PATE, III, HUBERT C. LORIN, and  
JOSEPH A. FISCHETTI, *Administrative Patent Judges*.

LORIN, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Christopher A. Adkins, et al. (Appellants) seek our review under 35 U.S.C. § 134 of the final rejection of claims 1-90. We have jurisdiction under 35 U.S.C. § 6(b) (2002).

## SUMMARY OF DECISION

We REVERSE.<sup>1</sup>

### THE INVENTION

The Appellants' claimed invention is to a "method for providing imaging substance for use in an imaging device via a virtual replenishment of a supply of imaging substance" (Specification 1:7-8).

Claim 1, reproduced below, is representative of the subject matter on appeal.

1. A method for providing a virtual replenishing of a supply item with an imaging substance, comprising the steps of:
  - providing a first supply item containing an actual supply of said imaging substance, said actual supply including a licensed amount of said imaging substance and a surplus amount of said imaging substance;
  - communicating to a database a first serial number associated with said first supply item;
  - comparing said first serial number with a plurality of serial numbers stored in said database;
  - receiving from said database one of a first data indicating non-correspondence between said first serial number with one of said plurality of serial numbers and a second data indicating correspondence between said first serial number with one of said plurality of serial numbers, wherein said second data includes a verification

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<sup>1</sup> Our decision will make reference to Appellants' Appeal Brief ("App. Br.," filed Jul. 7, 2006), Reply Brief ("Reply Br.," filed Dec. 1, 2006), and the Examiner's Answer ("Answer," mailed Oct. 13, 2006).

key; and

comparing said verification key received from said database with a first key stored in a memory associated with said first supply item;

wherein if said verification key received from said database corresponds to said first key stored in said memory associated with said first supply item, then performing the step of allocating at least a portion of said surplus amount of said imaging substance contained in said first supply item for use.

### THE REJECTIONS

The Examiner relies upon the following as evidence of unpatentability:

Takemoto	US 2002/0012541 A1	Jan. 31, 2002
Ruder	US 4,967,207	Oct. 30, 1990
Walmsley	US 6,816,968 B1	Nov. 9, 2004

The following rejections are before us for review:

1. Claims 1-24, 29-54, 59-70, and 75-86 are rejected under 35 U.S.C. § 103(a) as unpatentable over Takemoto and Ruder.
2. Claims 25-28, 55-58, 71-74, and 87-90 are rejected under 35 U.S.C. § 103(a) as unpatentable over Takemoto and Walmsley.

### ISSUES

The issues before us are whether the Appellants have shown that the Examiner erred in rejecting claims 1-24, 29-54, 59-70, and 75-86 as unpatentable over Takemoto and Ruder and claims 25-28, 55-58, 71-74, and

87-90 as unpatentable over Takemoto and Walmsley. Claims 1, 13, 29, 30, 31, 43, 59, and 75 are the independent claims and have been rejected as unpatentable over Takemoto and Ruder. These claims are directed to methods for virtual replenishing of imaging substance for an image-producing apparatus and include a step of allocating at least a portion of surplus amount of imaging substance after a verification key is found to correspond with a key stored in a memory; e.g.,

wherein if said verification key received from said database corresponds to said first key stored in said memory associated with said first supply item, then performing the step of allocating at least a portion of said surplus amount of said amount of said imaging substance contained in said first supply item for use . . .

(claim 1). The issues before us turn on whether Takemoto and Ruder would have led one having ordinary skill in the art to a method for virtual replenishing of imaging substance whereby at least a portion of surplus amount of imaging substance is allocated after a verification key is found to correspond with a key stored in a memory.

#### FINDINGS OF FACT

We find that the following enumerated findings are supported by at least a preponderance of the evidence. *Ethicon, Inc. v. Quigg*, 849 F.2d 1422, 1427 (Fed. Cir. 1988) (explaining the general evidentiary standard for proceedings before the Office).

*The scope and content of the prior art*

1. Takemoto describes a process for the effective collection of remanufacturing costs for printer cartridges. [0011].
2. Takemoto's process involves an image forming apparatus, such as a printer, connected to a network. [0019].
3. Takemoto's apparatus may comprise (a) a section to transmit identification information to a server [0020]; (b) a section to obtain license information from a server [0021]; (c) a section to store information corresponding to the license information [0024]; (d) a section to compare the license information with the stored information [0025]; (e) a section to control image forming based on a comparison of the license information and the stored information [0026]; (f) a section to conduct settlement of a fee based on the license information [0031]; and (g) a cartridge with a toner accommodating section to accommodate toner and a residual toner amount detecting section to detect an amount of residual toner remaining in the toner accommodating section [0032].
4. According to one embodiment of Takemoto's apparatus, "in a case that the license information obtained by the license information obtaining section has information indicating 'no license', the control section restricts or stops a function of the image forming section when the residual toner amount detecting section detects a predetermined amount of residual toner." [0033].
5. Accordingly, Takemoto describes a method for restricting or stopping, e.g., a printer when the amount of residual toner falls

below a predetermined amount and the license information does not match stored information.

6. Ruder describes a printer with a self-regulating refilling system.

With the present approach, after the reservoir container [of a printer head] is partially depleted of colorant, it is refilled at a service station location of the printer. To accomplish the refilling, a partial vacuum is drawn within the container. The vacuum port is sealed, and the interior of the container is connected to a larger colorant supply exterior to the container, and typically mounted on the frame of the printer. Colorant is drawn into the [reservoir] container [of the printer head] through a refill means by the partial vacuum, until the pressure within the container and at the colorant supply are equalized or nearly equalized.

(Col. 2, ll. 58-68.)

*Any differences between the claimed subject matter and the prior art*

7. Neither Takemoto nor Ruder describe methods of *virtual* replenishing of imaging substance.
8. Neither Takemoto nor Ruder describe allocating surplus imaging substance as a result of comparing information and finding a correspondence.
9. Takemoto does not describe replenishing imaging substance.

*The level of skill in the art*

10. Neither the Examiner nor the Appellants has addressed the level of ordinary skill in the pertinent art of printer cartridges and their replenishment with imaging substance. We will therefore consider

the cited prior art as representative of the level of ordinary skill in the art. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001) (“[T]he absence of specific findings on the level of skill in the art does not give rise to reversible error ‘where the prior art itself reflects an appropriate level and a need for testimony is not shown’”) (quoting *Litton Indus. Prods., Inc. v. Solid State Sys. Corp.*, 755 F.2d 158, 163 (Fed. Cir. 1985).

*Secondary considerations*

11. There is no evidence on record of secondary considerations of non-obviousness for our consideration.

PRINCIPLES OF LAW

“Section 103 forbids issuance of a patent when ‘the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.’” *KSR Int’l Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1734 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior art, (2) any differences between the claimed subject matter and the prior art, and (3) the level of skill in the art. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966). *See also KSR*, 127 S.Ct. at 1734 (“While the sequence of these questions might be reordered in any particular case, the [*Graham*] factors continue to define the inquiry that controls.”) The Court in *Graham* further noted that evidence of secondary considerations “might be utilized to



give light to the circumstances surrounding the origin of the subject matter sought to be patented.” 383 U.S. at 17-18.

## ANALYSIS

*The rejection of claims 1-24, 29-54, 59-70, and 75-86 as unpatentable over Takemoto and Ruder.*

The Examiner made a detailed analysis of the references and the claimed invention and provided a rationale for combining references. Answer 3-9. The Appellants for their part also provided a detailed explanation as to why one of ordinary skill in the art would *not* be led to the claimed invention based on the disclosures of Takemoto and Ruder. App. Br. 17-62 and Reply Br. 4-20. We have carefully reviewed both positions and find, on balance, that the Appellants have the stronger position.

The Examiner found that Takemoto described all the claimed limitations except that Takemoto does not “explicitly describe a method that uses a surplus of toner to refill the cartridge.” (Answer 5). The Examiner concluded that “it would have been obvious for one of ordinary skill in the art at the time of the appellant’s [sic] invention to use [sic] to allocate a surplus of toner/ink in order to increase the amount of toner/ink available in a printer ... .” (Answer 5).

The difficulty with this position is that it glosses over a number of differences between the claimed invention and what the references disclose.

Virtual allocation imaging substance and allocation of surplus imaging substance is nowhere disclosed in the cited references. Nor is there any disclosure of comparing data in connection with toner replenishment.

As claim 1 for example requires, the serial number of the printer cartridge and serial numbers in a database are compared and a verification key is provided if there is a match. The key is compared to one stored in a memory and if it corresponds, then “the step of allocating at least a portion of said surplus amount of said imaging substance contained in said first supply item for use” is performed. Because the claimed method recites allocating a “*surplus* amount of said imaging substance contained in said first supply item for use,” there must be a surplus amount in the cartridge for this step to be performed.

Neither Takemoto nor Ruder describe methods of *virtual* replenishing of imaging substance, let alone virtual replenishing with a *surplus* amount of imaging substance. While Takemoto (and not Ruder) discloses a connection between the printer and a network, the connection has no function which could affect toner replenishment. Takemoto provides for virtual control of the printer itself if license information and stored information do not correspond when a residual level of toner falls below a predetermined level. Takemoto does not provide virtual control of the printer’s toner. In that regard, the Examiner has not explained how one of ordinary skill would be led to modify Takemoto’s virtual control of a printer’s operation so as to control the toner and thereby replenish toner.

Furthermore, neither Takemoto nor Ruder describe allocating any imaging substance as a result of comparing information and finding a correspondence. Takemoto is not concerned with imaging substance replenishment, let alone allocating a surplus amount as claimed, and Ruder,

albeit describing replenishment, is not concerned with comparing information and finding a correspondence.

At best, the references describe comparing license information comparison (Takemoto) and replenishing toner (Ruder). However, the claimed invention is not simply the result of incorporating a step of adding surplus toner (per Ruder) to the Takemoto's method. The claimed invention is calls for allocating a "*surplus* amount of ... imaging substance" as a consequence of matching a verification key with one in memory. Takemoto's steps of comparing license information has nothing to do with allocating surplus toner. While it is arguable that the combined references would lead one of ordinary skill to replenish the toner in Takemoto's cartridge, we do not find that one of ordinary skill in the art would be led to allocate a surplus amount of toner based on comparing license information and finding a correspondence between them as part of a virtual image substance replenishment method.

*The rejection of claims 25-28, 55-58, 71-74, and 87-90 as unpatentable over Takemoto and Walmsley.*

Since the rejection of the independent claims have been reversed, this rejection, which applies only to dependent claims, is reversed for the same reasons.

### CONCLUSIONS OF LAW

We conclude the Appellants have shown that the Examiner erred in rejecting claims 1-24, 29-54, 59-70, and 75-86 as unpatentable over Takemoto and Ruder and claims 25-28, 55-58, 71-74, and 87-90 as unpatentable over Takemoto and Walmsley.

### DECISION

The decision of the Examiner to reject claims 1-90 is reversed.

### REVERSED

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